AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings are being replaced to comply with the request of the Examiner in the Office Action dated November 21, 2001 and the attached PTO-948 form.

Nine (9) pages of Replacement drawings are attached and replace any previous drawings submitted.

Attachment: Annotated Sheets Showing Changes
Replacement Sheets

REMARKS/ARGUMENTS

Claims 1-2, 6-7, 11-12, 16-17, 21-22 and 26-27 are pending in the application and allowed in the application.

The title was originally amended on August 28, 2001 to comply with the Examiner's request in the Office Action dated February 28, 2001. The title change was not reflected in the Notice of Allowance. Therefore, the title change is being re-submitted with this amendment. A copy of the August 28, 2001 filing is enclosed for your reference.

The drawings have been formalized and replaced to comply with the Examiner's request in the Office Action dated November 21, 2001 and the attached PTO-948 form.

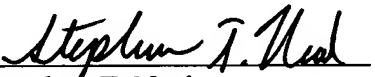
The Examiner is invited to contact the undersigned at (408) 975-7500 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. §1.16 or §1.17 to Deposit Account No. **11-0600**.

Respectfully submitted,

KENYON & KENYON LLP

Dated: January 30, 2006

By: 
Stephen T. Neal
(Reg. No. 47,815)

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COPY

The datestamp of the U.S. Patent and Trademark Office hereon will acknowledge receipt of the following item(s):			
Docket No. 2855/16	*Serial No.* 09/406,330	*Date of Mailing*	August 28, 2001
By SWO/PMR/SJO	*Filing Date* 09/27/99	*Express Mail No.*	
Inventors/ Applicant ELLIS T. CHA			
Title CENTER NEGATIVE PRESSURE SLIDER			

Item No.	*Description*	*No. of Pages*
1.	REQUEST FOR EXTENSION OF TIME (plus 1 copy)	2
2.	AMENDMENT	10
3.		
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Docket No. 2855/16	*Serial No.* 09/406,330	*Date of Mailing*	August 28, 2001
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Inventors/ Applicant ELLIS T. CHA			
Title CENTER NEGATIVE PRESSURE SLIDER			

Item No.	*Description*	*No. of Pages*
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PATENT AND TRADEMARK OFFICE

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REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.136(a)

Docket Number: 2855/16

Application Number	Filing Date	Examiner	Art Unit
09/406,330	09/27/99	D. DAVIS	2652

Invention Title: CENTER NEGATIVE PRESSURE SLIDER

Inventor(s): E. CHA

Address to:
Assistant Commissioner for Patents
Washington D.C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on

Date: August 28, 2001 Reg. No. 34,687

Signature: _____
Shawn W. O'Dowd

Applicant respectfully requests a three-month extension of time in which to submit its response to the Office Action mailed February 28, 2001, for which a response period expiring on May 28, 2001, was set. The extended period expires on August 28, 2001.

1. The Commissioner is hereby authorized to charge payment of the 37 C.F.R. § 1.136(a) extension fee of **$890.00** to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**. The Commissioner is also authorized to charge any additional fees or credit any overpayment in connection with this paper to Deposit Account No. 11-0600.

2. A duplicate copy of this form is enclosed.

Dated: August 28, 2001 By: _____
Shawn W. O'Dowd (Reg. No. 34,687)

KENYON & KENYON
333 W. San Carlos
Suite 600
San Jose, CA 95110
(408) 975-7500 (telephone)
(408) 975-7501 (facsimile)

PATENT
DOCKET NO.: 2855/16

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS	:	Cha, E.
SERIAL NO.	:	09/406,330
FILED	:	September 27, 1999
FOR	:	CENTER NEGATIVE PRESSURE SLIDER
GROUP ART UNIT	:	2652
EXAMINER	:	D. DAVIS

HON. COMMISSIONER
FOR PATENTS
Washington, DC 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231.
Dated: August 28, 2001
Signature: _____
Shawn W. O'Dowd (Reg. No. 34,687)
KENYON & KENYON

AMENDMENT

S I R:

The following amendments and remarks below are respectfully submitted in response to the Office Action dated February 28, 2001.

Applicant respectfully requests a three-month extension of time in which to file a response to the Office Action mailed February 28, 2001 for which a response period expiring on May 28, 2001 was set. The extended period expires on August 28, 2001. The Commissioner is hereby authorized to charge payment of the 37 C.F.R. § 1.136(a) extension fee of $890 to the

deposit account of Kenyon & Kenyon, deposit account number 11-0600.

COPY

INT THE TITLE:

Please change the above-identified title to --A Multiple Level Surface Configuration for a Sub-Ambient Pressure Air Bearing Slider--.

IN THE SPECIFICATION:

In accordance with 37 C.F.R. § 1.121, the following amendments to the specification are requested. In each case the paragraph of the specification is identified by its starting page and line number.

Paragraph beginning at Page 22, line 2 (Abstract, line 2), change "An improved" to --A--; line 5, change "stiffer" to --stiff--; and line 7, change "improved" to --exceptional--.

In accordance with 37 C.F.R. § 1.121, a marked-up and a clean version of these paragraphs are attached to the present Amendment

IN THE CLAIMS:

Please amend the claims as follows:

1. (Amended) A slider comprising:

a slider body;

first and second rails extending in a longitudinal direction along the slider body where [the] leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and

wherein said first structure extends over one-third of a length of the slider body from the leading edge of the slider body.

11. (Amended) A head suspension assembly comprising:

a flexure; and

a slider coupled to said flexure, said slider including

a slider body;

first and second rails extending in a longitudinal direction along the slider body where [the] leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and

wherein said first structure extends over one-third of a length of the slider body from the leading edge of the slider body.

21. (Amended) A disk drive comprising:

a recording medium adapted to be rotated at a given velocity;

a flexure;

a slider coupled to said flexure and adapted to fly above said recording medium when rotated, the slider including

a slider body;

first and second rails extending in a longitudinal direction along the slider body where [the] leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and

wherein said first structure extends over one-third of a length of the slider body from the leading edge of the slider body.

In accordance with 37 C.F.R. § 1.121, a clean version of claims 1, 11, and 21 is attached to the present Amendment.

REMARKS

After entering of the proposed amendment set forth above, claims 1-30 remain in this application. Claims 1, 11, and 21 have been amended to correct minor informalities. Also, the title and abstract have been amended.

Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 1-5, 11-15, and 21-25 were rejected under 35 U.S.C. § 112, second paragraph as failing to distinctly claim the invention. Claims 1, 11, and 21 have been amended to correct an error in antecedent bases. In view of these amendments, reconsideration and withdrawal of the rejection of claims 1-5, 11-15, and 21-25 under 35 U.S.C. § 112, second paragraph is respectfully requested.

Rejections under 35 U.S.C. § 102(e)

Claims 1-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,144,529 to Wada et al. ("Wada"). In discussing the Hunt reference, Applicant is not making a representation that this reference has a filing date that predates the date of invention for the present application. It is also noted that the present application is assigned to a subsidiary of the assignee of the Wada patent.

The present invention pertains to a multiple level surface configuration for a subambient pressure air bearing slider. More particularly, an improved slider design is presented including a first structure that extends between the rails of the slider body and over at least the first third of the slider body. A second structure having a depth lower than the depth of the first structure is disposed adjacent to the first structure and between the rails.

Looking specifically to claim1, Applicant claims a unique design to the body of a slider that is not in any way suggested in Wada. The invention requires that the body be comprised of two structures of two differing depths; a relatively shallow front extending from the leading edge of the slider body, and secondly, a relatively deeper structure adjacent to the first structure. Specifically, the body design requires "a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails. Secondly, the body requires "a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth." Wada on the other hand only has one continuous depth along the slider body, which corresponds to the generation of only one negative pressure bearing area along the body.

Applicant's novel design greatly increases the negative pressure generation over the

structure, and empirically has been seen to counterbalance positive pressure generation more efficiently than alternate designs such as Wada. For the following reason, the Applicant respectfully submits that Wada in no way teaches or reflects the invention presently claimed.

In view of the above, reconsideration and withdrawal of the rejection of claims 1-30 under 35 U.S.C. § 102(e) is respectfully requested.

CONCLUSION

The Applicant respectfully submits that this application is in condition for allowance. A Notice of Allowance is earnestly solicited. The Examiner is invited to contact the undersigned at (408) 975-7500 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,
KENYON & KENYON

Dated: 8/22/01

By: _____
Shawn W. O'Dowd
Reg. No. 34,687

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SJ1-27758v1

Marked-Up Version of Amended Paragraphs

Abstract of the Disclosure

[An improved] A slider design is presented including a first structure that extends between the rails of the slider body and over at least the first third of the slider body. A second structure having a depth lower than the depth of the first structure is disposed adjacent to the first structure and between the rails. The present slider design provides a [stiffer] stiff air bearing that has a near-constant flying height over various radii of the moving recording medium. The present slider design also provides [improved] exceptional lift-off in a ramp unloading operation.

Clean Version of Amended Paragraphs

Abstract of the Disclosure

A slider design is presented including a first structure that extends between the rails of the slider body and over at least the first third of the slider body. A second structure having a depth lower than the depth of the first structure is disposed adjacent to the first structure and between the rails. The present slider design provides a stiff air bearing that has a near-constant flying height over various radii of the moving recording medium. The present slider design also provides exceptional lift-off in a ramp unloading operation.

Clean Version of Amended Claims

1. (Amended) A slider comprising:

a slider body;

first and second rails extending in a longitudinal direction along the slider body where leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and

wherein said first structure extends over one-third of a length of the slider body from the leading edge of the slider body.

11. (Amended) A head suspension assembly comprising:

a flexure; and

a slider coupled to said flexure, said slider including

a slider body;

first and second rails extending in a longitudinal direction along the slider body where leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and

wherein said first structure extends over one-third of a length of the slider body from the leading edge of the slider body.

21. (Amended) A disk drive comprising:

a recording medium adapted to be rotated at a given velocity;

a flexure;

a slider coupled to said flexure and adapted to fly above said recording medium when rotated, the slider including

a slider body;

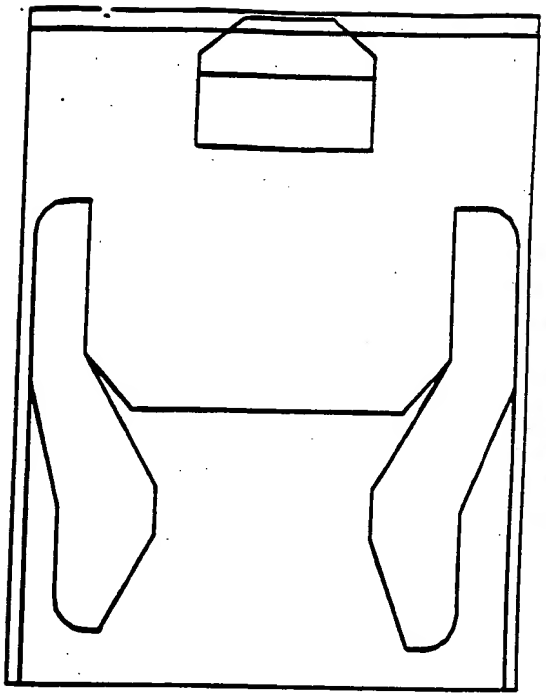
first and second rails extending in a longitudinal direction along the slider body where leading edges of said rails are spaced from a leading edge of the slider body;

a first structure having a first depth and extending from a leading edge of the body to the leading edges of the first and second rails and between the first and second rails;

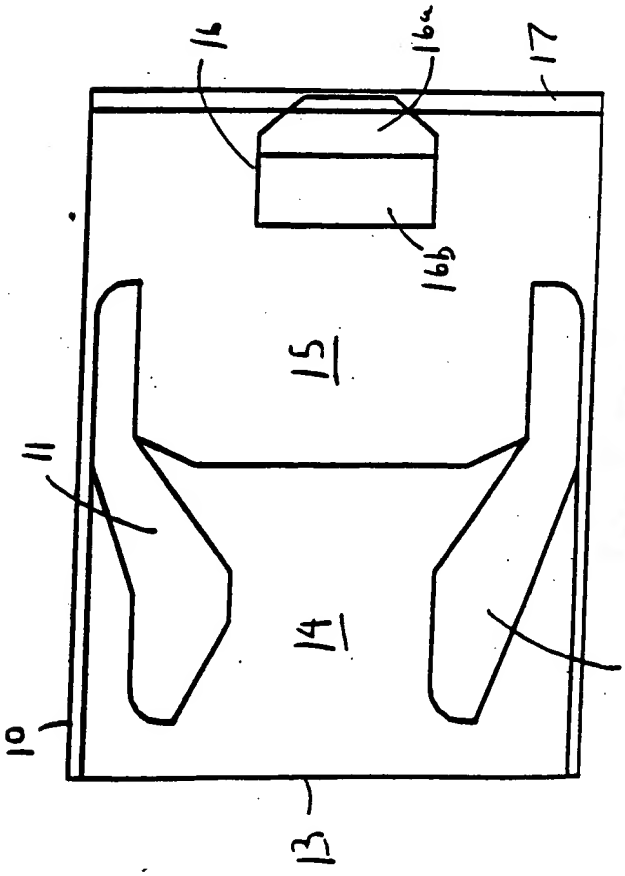
a second structure having a second depth disposed adjacent to said first structure and between said first and second rails, said second depth being lower than said first depth; and

wherein said first structure extends over one-third of a length of the slider body from the leading edge of the slider body.

Application No.: 09/406,330
Amendment dated: January 30, 2006
ANNOTATED SHEET SHOWING CHANGES

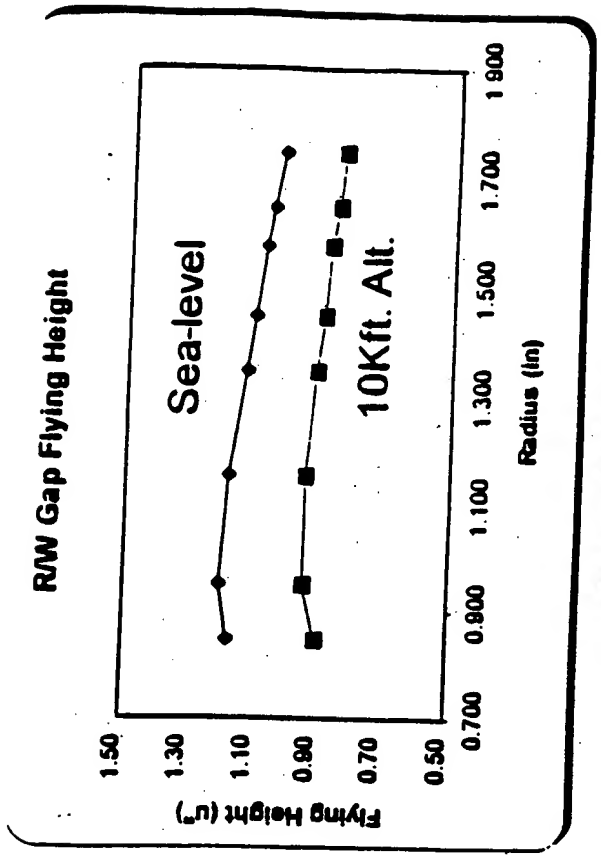


~~Fig. 1b~~ Figure 1b

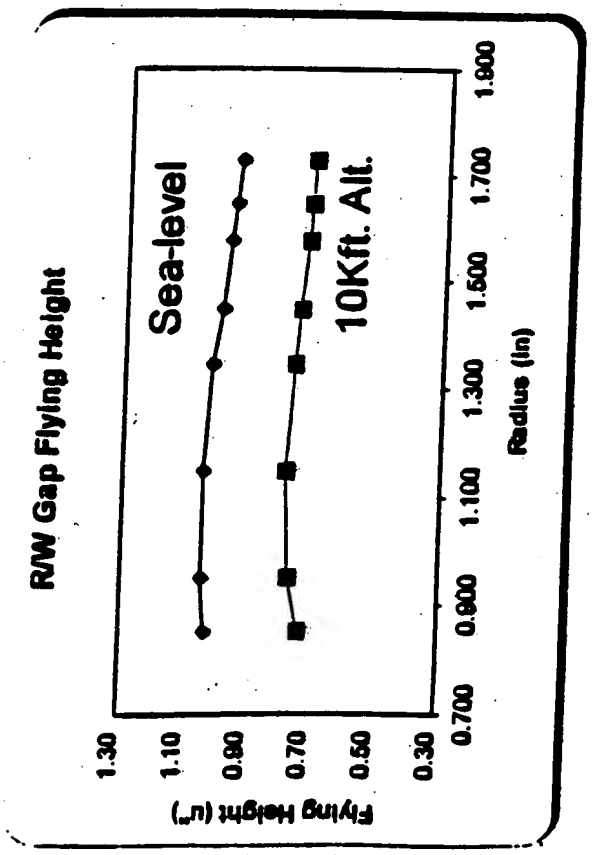


~~Fig. 1a~~ Figure 1a

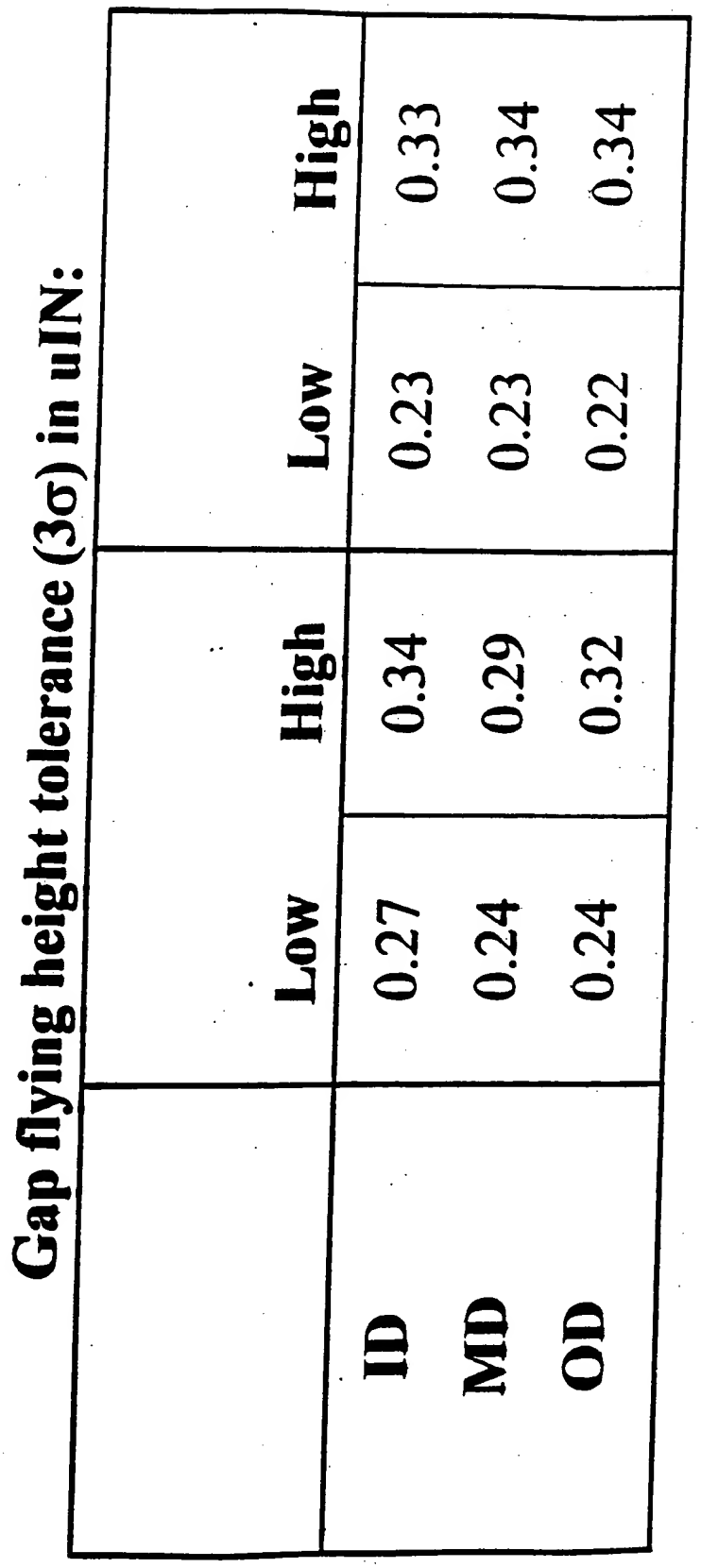
Application No.: 09/406,330
Amendment dated: January 30, 2006
ANNOTATED SHEET SHOWING CHANGES



~~Fig. 2b~~ Figure 2b



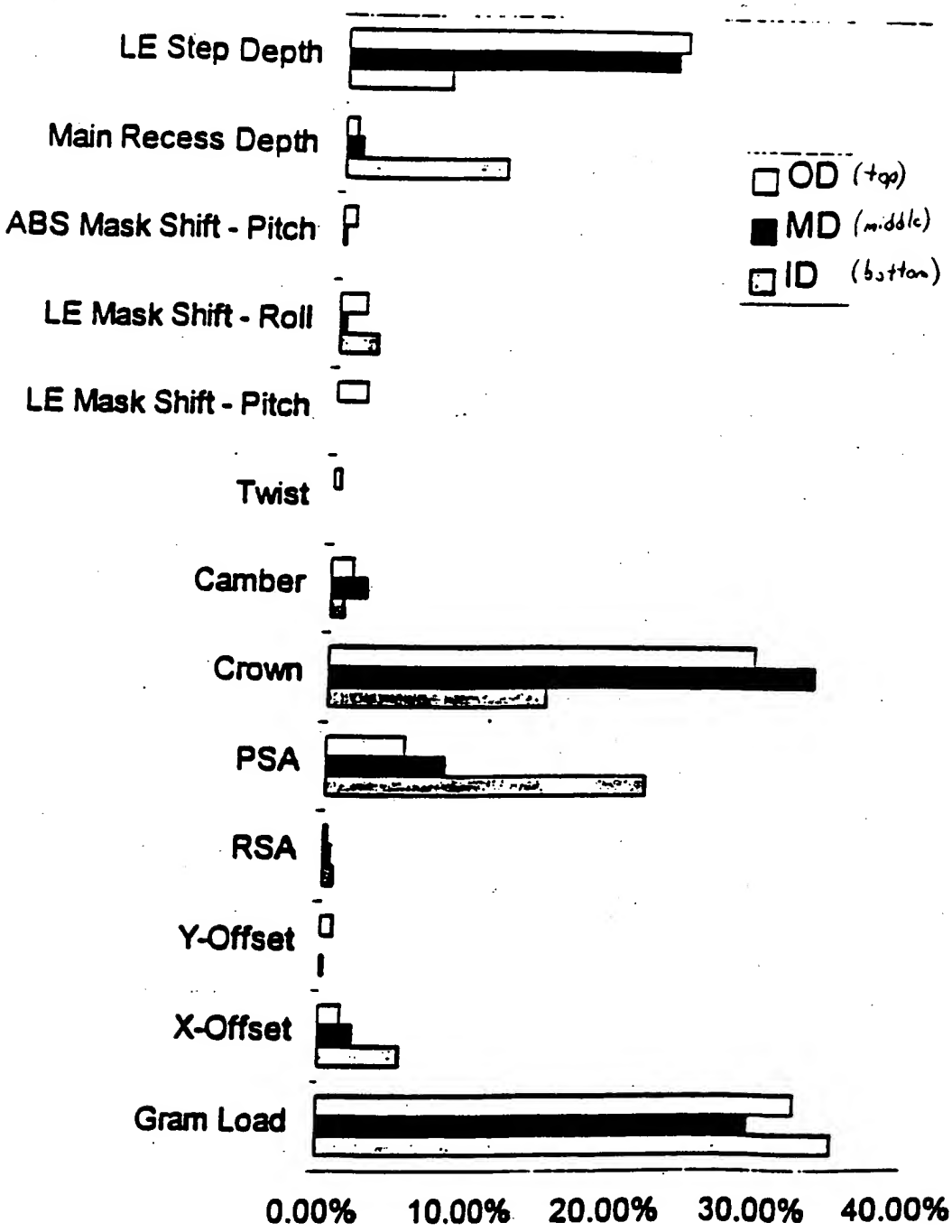
~~Fig. 2a~~ Figure 2a



Gap flying height tolerance (3σ) in uIN:

	Low	High	Low	High
ID	0.27	0.34	0.23	0.33
MD	0.24	0.29	0.23	0.34
OD	0.24	0.32	0.22	0.34

~~Fig 3~~
Figure 3



~~Fig. 4~~

Figure 4

	ID	OD	ID	OD
Gram Load (u"/g)	-0.29	-0.26	-0.27	-0.25
PX (u"/mil)	-0.05	-0.02	-0.05	-0.03
PSA (u"/deg)	-0.11	-0.05	-0.11	-0.05
Crown (u"/u")	0.09	0.14	0.15	0.20
Step (u"/u")	0.06	0.06	0.05	0.09

PX denotes dimple offset in pitch direction.

~~Fig. 5~~
Figure 5

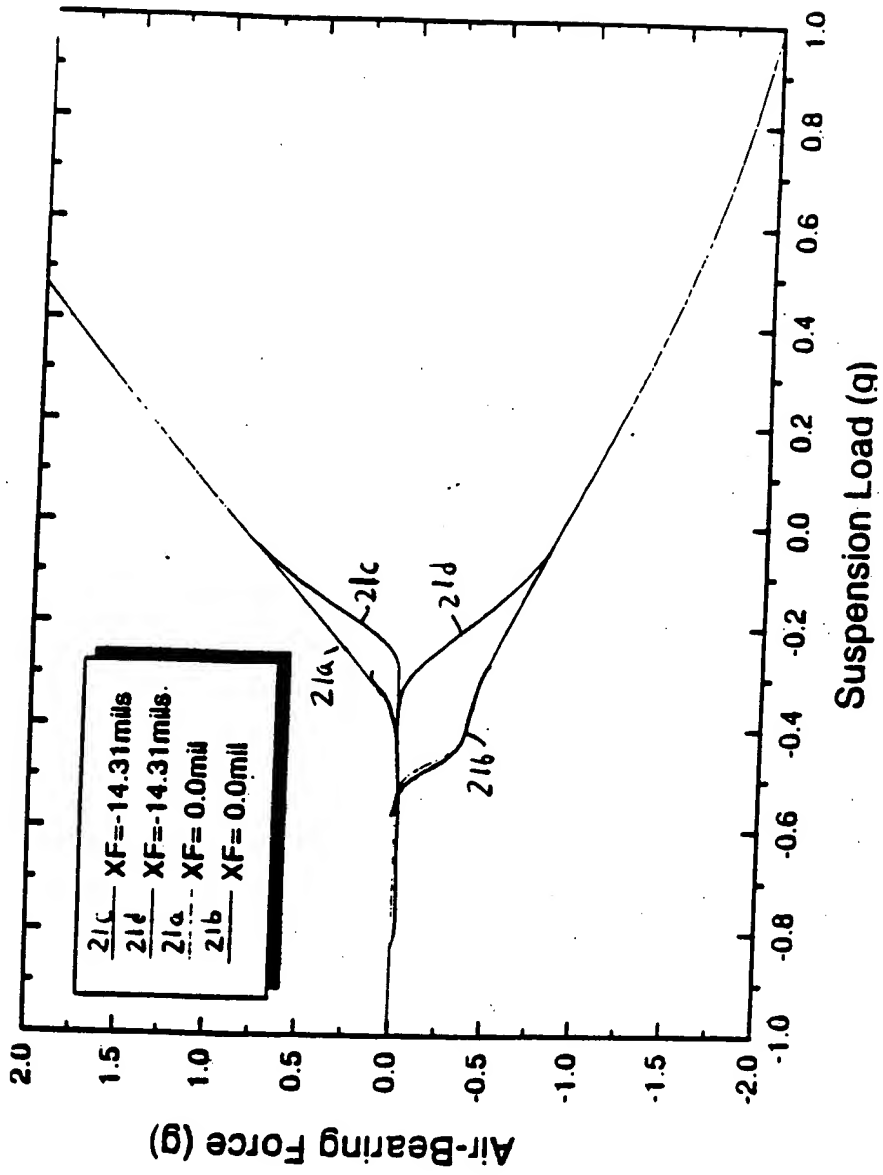

Air-Bearing Force (g)
Suspension Load (g)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
21c XF=-14.31mils
21d XF=-14.31mils
21a XF= 0.0mil
21b XF= 0.0mil
21a
21c
21d
21b

Figure 6a

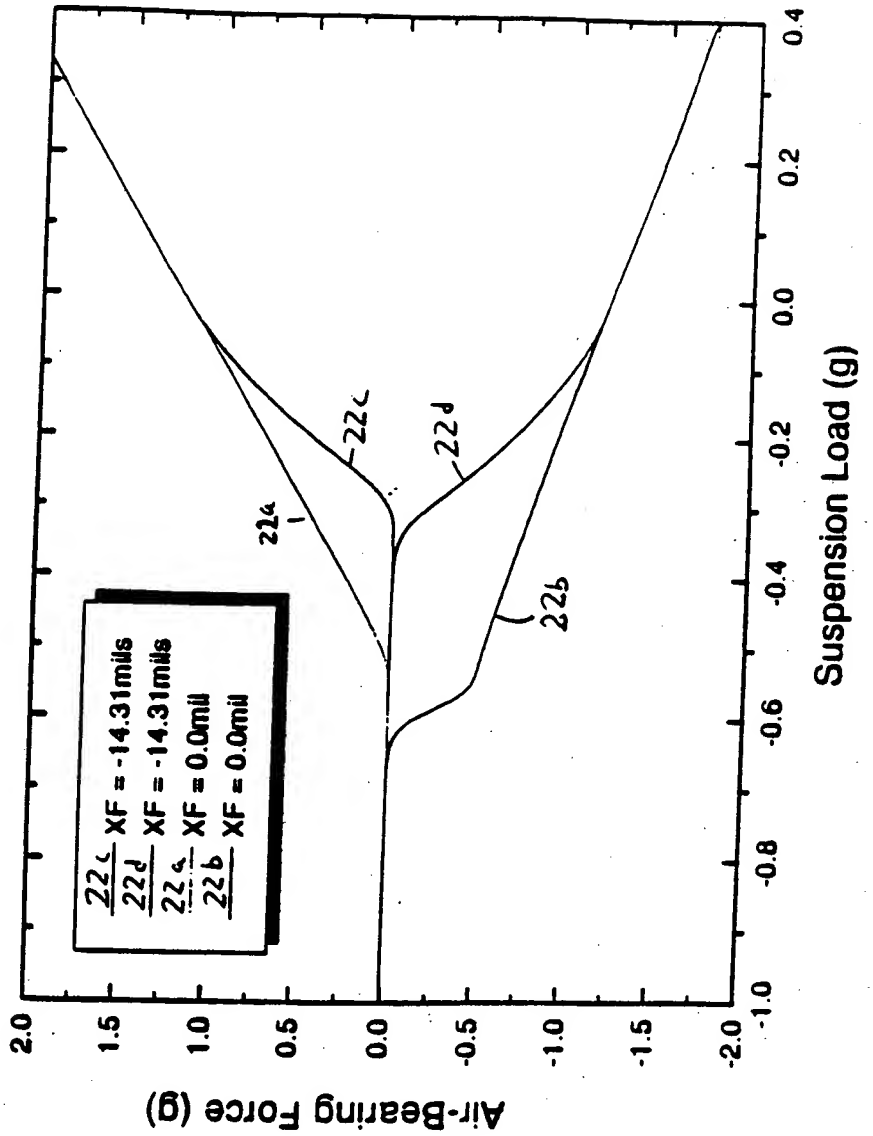


Figure 6b
~~Fig. 6b~~

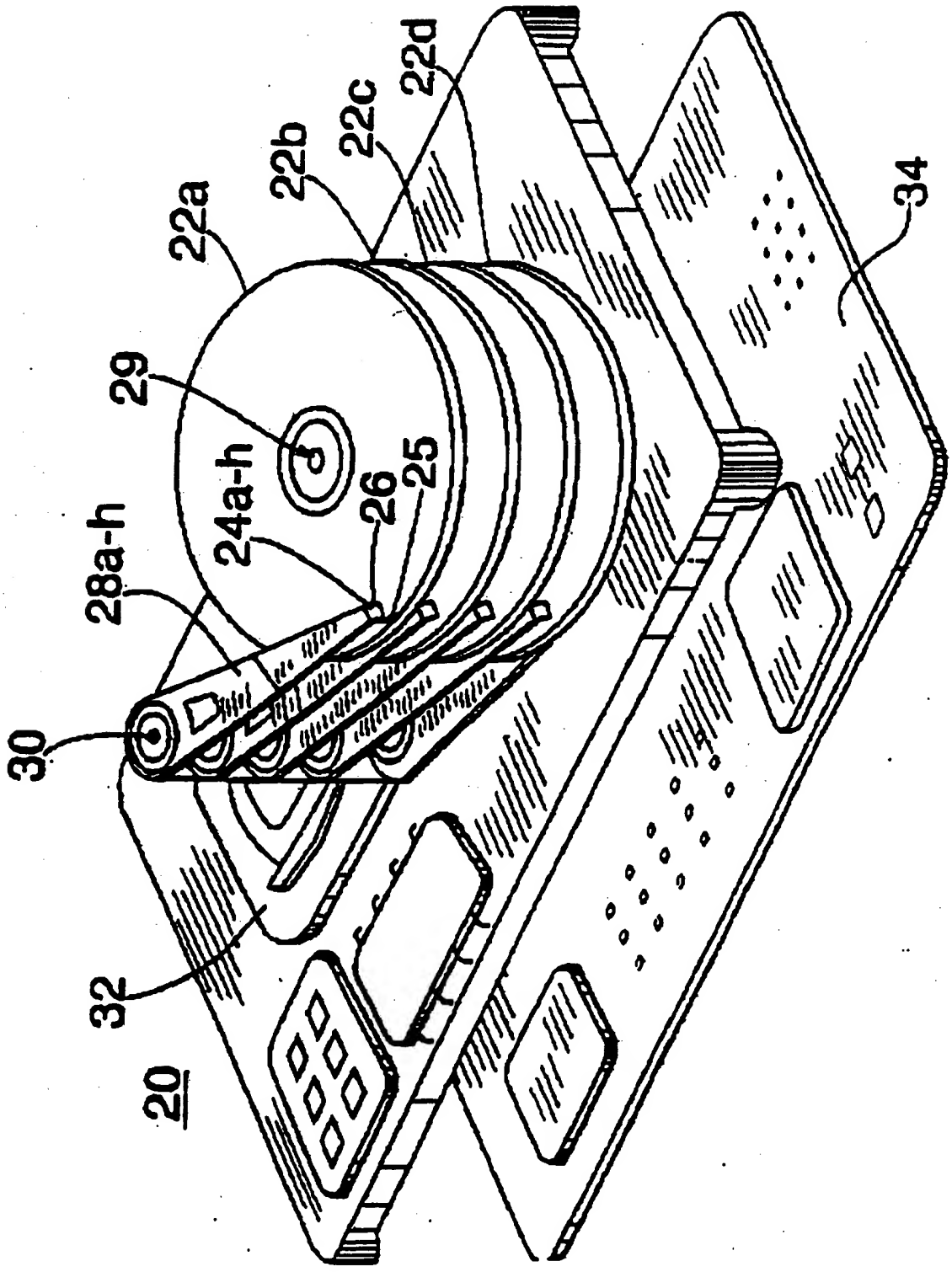
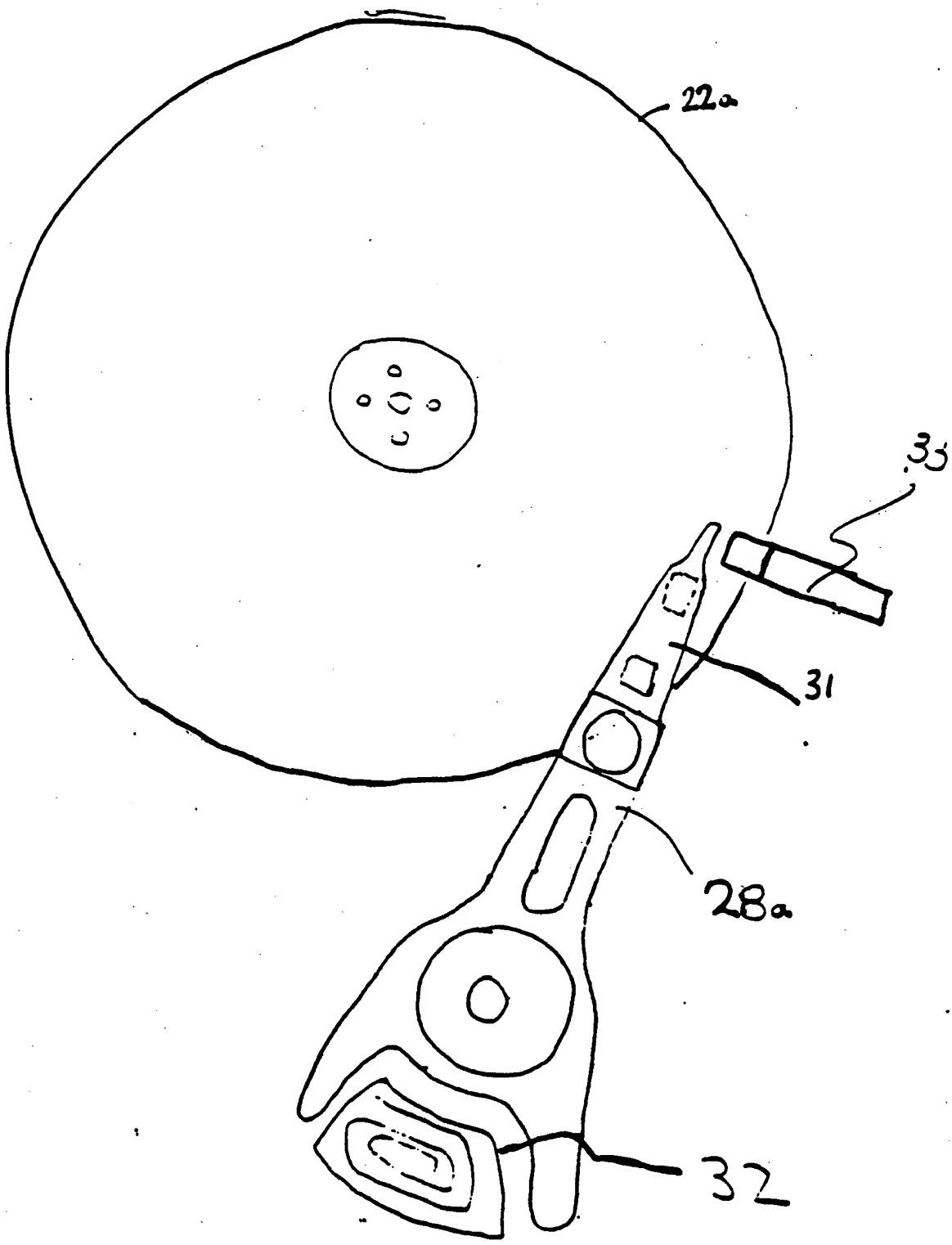


FIG 7 Figure 7



~~Fig. 8~~
Figure 8